SEQUENCE LISTING

<110> Bell, Leonard

<120> METHOD OF PROPHYLAXIS AGAINST LARGE MYOCARDIAL INFARCTIONS

<130> 59

<140> 10/047,608
<141> 2002-01-14

<150> US 60/262,540
<151> 2001-01-18

<160> 18

<170> PatentIn version 3.2

<210> 1
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 1

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                  10                  15

gtg ggc gat agg gtc acc atc acc tgc ggc gcc agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cgt aaa cct ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Arg Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg aac ctg gca gat gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
```

```
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat acc gaa aat ttt aaa gac      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 2
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 2

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30
```

```
Gly Ala Leu Asn Trp Tyr Gln Arg Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 3
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 3

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

gtg ggc gat agg gtc acc atc acc tgc ggc gcc agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa cct ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg aac ctg gca gat gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175
```

```
atc tta ccg ggc tct ggt agc acc gaa tat gcc caa aaa ttc cag ggc      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 4
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 4

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
```

```
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 5
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 5

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15
```

```
gtg ggc gat agg gtc acc atc acc tgc ggc gcc agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa ccc ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg aac ctg gca gat gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat acc gaa aat ttt aaa gac      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
```

```
Gly Thr Leu Val Thr Val Ser Ser
               245
```

<210> 6
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 6

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175
```

```
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 7
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 7

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

gtg ggc gat agg gtc acc atc acc tgc cgt gct agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa cct ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg aac ctg gca gat gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
```

```
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat gcc caa aaa ttc cag ggc      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 8
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 8

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15
```

```
Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
```

245

<210> 9
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 9

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                  10                  15

gtg ggc gat agg gtc acc atc acc tgc ggc gcc agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa cct ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg agc ctg cag tct gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160
```

```
caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat gcc caa aaa ttc cag ggc      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 10
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 10

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95
```

```
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 11
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 11
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct 48

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                  10                  15

gtg ggc gat agg gtc acc atc acc tgc cgt gct agc gaa aac atc tat      96
Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa cct ggg aaa gct ccg aag ctt     144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg agc ctg cag tct gga gtc cct tct cgc ttc     192
Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg     240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act     288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc     336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc     384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc     432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att     480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag     528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat gcc caa aaa ttc cag ggc     576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag     624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt     672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa     720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
```

225 230 235 240

gga acc ctg gtc act gtc tcg agc tga 747
Gly Thr Leu Val Thr Val Ser Ser
245

<210> 12
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 12

Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1 5 10 15

Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
20 25 30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
35 40 45

Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
85 90 95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
130 135 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145 150 155 160

```
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Ala Gln Lys Phe Gln Gly
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 13
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 13

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

gtg ggc gat agg gtc acc atc acc tgc cgt gct agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa ccc ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg aac ctg gca gat gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80
```

```
cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat acc gaa aat ttt aaa gac      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 14
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 14

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
```

```
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240
```

```
Gly Thr Leu Val Thr Val Ser Ser
                245


<210>  15
<211>  747
<212>  DNA
<213>  Artificial

<220>
<223>  Humanized antibody


<220>
<221>  CDS
<222>  (1)..(744)

<400>  15
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

gtg ggc gat agg gtc acc atc acc tgc ggc gcc agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa ccc ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg agc ctg cag tct gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
```

```
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat acc gaa aat ttt aaa gac      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                  747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 16
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 16

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Gly Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80
```

```
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 17
<211> 747
<212> DNA
<213> Artificial

<220>
<223> Humanized antibody

<220>
<221> CDS
<222> (1)..(744)

<400> 17

```
atg gcc gat atc cag atg acc cag tcc ccg tcc tcc ctg tcc gcc tct       48
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

gtg ggc gat agg gtc acc atc acc tgc cgt gct agc gaa aac atc tat       96
Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

ggc gcg ctg aac tgg tat caa cag aaa ccc ggg aaa gct ccg aag ctt      144
Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

ctg att tac ggt gcg acg agc ctg cag tct gga gtc cct tct cgc ttc      192
Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

tct gga tcc ggc tcc gga acg gat ttc act ctg acc atc agc agt ctg      240
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

cag cct gaa gac ttc gct acg tat tac tgt cag aac gtt tta aat act      288
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

ccg ttg act ttc gga cag ggt acc aag gtg gaa ata aaa cgt act ggc      336
Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

ggt ggt ggt tct ggt ggc ggt gga tct ggt ggt ggc ggt tct caa gtc      384
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

caa ctg gtg caa tcc ggc gcc gag gtc aag aag cca ggg gcc tca gtc      432
Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

aaa gtg tcc tgt aaa gct agc ggc tat att ttt tct aat tat tgg att      480
Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
145                 150                 155                 160

caa tgg gtg cgt cag gcc ccc ggg cag ggc ctg gaa tgg atg ggt gag      528
Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

atc tta ccg ggc tct ggt agc acc gaa tat acc gaa aat ttt aaa gac      576
Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

cgt gtt act atg acg cgt gac act tcg act agt aca gta tac atg gag      624
Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

ctc tcc agc ctg cga tcg gag gac acg gcc gtc tat tat tgc gcg cgt      672
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220
```

```
tat ttt ttt ggt tct agc ccg aat tgg tat ttt gat gtt tgg ggt caa      720
Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

gga acc ctg gtc act gtc tcg agc tga                                747
Gly Thr Leu Val Thr Val Ser Ser
                245
```

<210> 18
<211> 248
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 18

```
Met Ala Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr
            20                  25                  30

Gly Ala Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Gly Ala Thr Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Asn Val Leu Asn Thr
                85                  90                  95

Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val
    130                 135                 140

Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asn Tyr Trp Ile
```

```
145                 150                 155                 160

Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Glu
                165                 170                 175

Ile Leu Pro Gly Ser Gly Ser Thr Glu Tyr Thr Glu Asn Phe Lys Asp
            180                 185                 190

Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
        195                 200                 205

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp Gly Gln
225                 230                 235                 240

Gly Thr Leu Val Thr Val Ser Ser
                245
```